



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,979	07/03/2003	Marcus Franz	02198/000M991-US0	4345

7278 7590 06/28/2006

DARBY & DARBY P.C.

P. O. BOX 5257

NEW YORK, NY 10150-5257

EXAMINER

HANDAL, KAITI V

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/613,979

Applicant(s)

FRANZ ET AL.

Examiner

Kaity Handal

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 22,23,25-27 and 29-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-21,24 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/21/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 1-18, 22-23, 25-26, 27, and 29-34 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention/species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 5/25/2006.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 19 and 24 are rejected under 35 U.S.C. 102(e) as being anticipated by Bentley et al. (US 2002/0000066 A1).

With respect to claim 19, Bentley teaches as apparatus to produce hydrogen by means of the oxidation of fuels that contain chemically bound hydrogen, comprising: a reactor (fig. 1, 10) that contains a first porous material/inside second reforming zone (20) and a second porous material/inside third zone (22), and the reactor (10) comprises a tubular reactor (illustrated) that has a central chamber/first zone (18) for

Art Unit: 1764

introducing a fuel (via tube (48)) and an oxidation agent/air (via tube (50)) through inlet (38), said central chamber/first zone (18) extending in an axial direction (illustrated), wherein the reactor (10) is defined in the radially outward direction by a first wall/mesh (30) that contains the first porous material/inside second reforming zone (20), and the first wall/mesh (30) is delimited radially to the outside by a second wall/mesh (32) that contains the second porous material/inside third zone (22)).

With respect to claim 24, Bentley teaches wherein said apparatus (fig. 1, 10) is delimited by an outer wall/reactor housing (12) that extends axially at a given distance from the second wall/mesh (32) (illustrated).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 20-21 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bentley et al. (US 2002/0000066 A1), as applied to claim 19 above, in view of Komiya et al. (US 2002/0042035 A1) and further in view of Doker et al. (US 5,890,886).

With respect to claim 20, Bentley discloses all claim limitations as forth above but fails to show specific Péclet values in relation to flame propagation. Bentley teaches having a partial oxidation vessel (34) where a mixture of fuel, steam and air flow and undergo partial oxidation (page 3, paragraph [0039], lines 1-5). Bentley does not

Art Unit: 1764

teach having a burner to effect a flame. Komiya teaches a reformer having a burner (fig. 1, 18) in order to heat the interior of the reformer (page 5, paragraph [0085], lines 1-3).

It would have been obvious to one having an ordinary skill in the art at the time the invention was made to include a burner in Bentley's apparatus, as taught by Komiya, in order to heat the interior of the reformer.

Bentley as modified fails to show wherein the first porous material has a pore size that has a Péclet number that is less than a critical Péclet number below which flame propagation cannot occur. Docker teaches a burner having a porous body (abstract) with a Péclet number smaller than 65 in order to provide a flame barrier (col. 4, lines 1-5).

It would have been obvious to one having an ordinary skill in the art at the time the invention was made to include a burner having a porous body with a Péclet number smaller than 65 in order to function as a flame barrier in Bentley's modified apparatus, as taught by Docker, in order to provide a flame barrier.

With respect to claims 21 and 28, Bentley does not explicitly teach wherein the first porous material/inside second reforming zone (20) has fine holes, however it is inherent that a reforming zone would contains catalyst material which is porous by nature.

Conclusion

Art Unit: 1764

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kaity Handal whose telephone number is (571) 272-8520. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KH

6/19/2006


ALEXA DOROSHENK NECKEL
PRIMARY EXAMINER